AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1. (Previously Presented) A non-naturally occurring pig that lacks any expression of functional α-1,3 galactosyltransferase.

Claim 2. (Previously Presented) An organ of a non-naturally occurring pig that lacks any expression of functional α-1,3 galactosyltransferase.

Claim 3. (original) The organ of claim 2, wherein the organ is a kidney.

Claim 4. (original) The organ of claim 2, wherein the organ is a liver.

Claim 5. (original) The organ of claim 2, wherein the organ is a heart.

Claim 6. (original) The organ of claim 2, wherein the organ is a lung.

Claim 7. (original) The organ of claim 2, wherein the organ is a pancreas.

Claim 8. (Previously Presented) A tissue obtained from a non-naturally occurring pig that lacks any expression of functional α-1,3 galactosyltransferase.

Claim 9. (Previously Presented) The tissue of claim 8, wherein the tissue is selected from the group consisting of cartilage, tendon, ligament, skeletal muscle and bone.

Claim 10. (Previously Presented) The tissue of claim 8, wherein the tissue is cardiac.

Claim 11. (original) The tissue of claim 8, wherein the tissue is adipose.

Claim 12. (Previously Presented) The tissue of claim 8, wherein the tissue is derived from a liver.

Claim 13. (Previously Presented) A cell or a cell line obtained from a non-naturally occurring pig that lacks any expression of functional α-1,3 galactosyltransferase.

Claim 14. (original) The cell of claim 13, wherein the cell is derived from the pancreas.

Claim 15. (original) The cell of claim 14, wherein the cell is an Islet of Langerhans cell.

Claim 16. (original) The cell of claim 14, wherein the cell is an insulin secreting cell.

Claim 17. (Previously Presented) A method for the production of a pig that lacks any expression of functional α-1,3 galactosyltransferase comprising: breeding a male pig heterozygous for the α-1,3-GT gene with a female pig heterozygous for the α-1,3-GT gene.

Claim 18. (Previously Presented) The method of claim 17, wherein one or both pigs are heterozygous due to the genetic modification of one allele of the α-1,3-GT gene to prevent expression of that allele.

Claim 19. (Previously Presented) The method of claim 17, wherein one or both pigs are heterozygous due to the presence of a point mutation in an allele of the α-1,3-GT gene.

Claim 20. (Previously Presented) The method of claim 19, wherein the point mutation is a T-to-G point mutation at the second base of exon 9 of the α -1,3-GT gene.

Claim 21. (Previously Presented) The method of claim 17, wherein a male pig that contains a T-to-G point mutation at the second base of exon 9 of the α-1,3-GT gene is bred with a female pig that contains a T-to-G point mutation at the second base of exon 9 of the α -1,3-GT gene.

Claim 22 - 42. (Canceled)

Claim 43. (Previously Presented) A non-naturally occurring pig produced according to the method of claim 17, 18, 19, 20 or 21.

Claim 44. (Previously Presented) A pig produced by nuclear transfer cloning using a fibroblast cell lacking any expression of functional α-1,3-galactosytransferase wherein said cell is produced by a method comprising: (a) exposing a population of cells to C. difficile toxin A; (b) removing cells which are adversely affected by toxin A due to the receptor-mediated cytotoxicity of the toxin; and (c) expanding and maintaining a cell that does not show the effects of receptor-mediated cytotoxicity as a nuclear donor.

Claim 45. (Previously Presented) A pig produced by nuclear transfer cloning using a fibroblast cell lacking any expression of functional α-1,3-galactosyltransferase wherein at least one α-1,3-GT allele contains a base substitution thymine to guanine at base position 424 of the α-1,3-GT gene, resulting in the amino acid substitution tyrosine to aspartic acid at position 142 in α-1,3-galactosyltransferase as a nuclear donor, wherein the cell is produced by a method comprising: (a) exposing a population of cells to C. difficile toxin A; (b) removing cells which are adversely affected by toxin A due to the receptor-mediated cytotoxicity of the toxin; and (c) expanding and maintaining a cell that does not show the effects of receptor-mediated cytotoxicity.

Claim 46. (Previously Presented) A pig produced by nuclear transfer cloning using a fibroblast cell lacking any expression of functional α-1,3-galactosyltransferase wherein at least one allele of the α-1,3-GT gene contains an induced mutation in the α-1,3-GT gene as a nuclear donor, wherein the cell is produced by a method comprising: (a) exposing a population of cells to C. difficile toxin A; (b) removing cells which are adversely affected by toxin A due to the receptor-mediated cytotoxicity of the toxin; and (c) expanding and maintaining a cell that does not show the effects of receptor-mediated cytotoxicity.

Claim 47. (Canceled)

Claim 48. (Previously Presented) A cell, tissue, or organ obtained from the pig of claim 43 for use as an in vivo or ex vivo supplement or replacement for recipient cells, tissues, or organs.

Claim 49. (Previously Presented) A cell, tissue, or organ obtained from the pig of claim 44 for use as an in vivo or ex vivo supplement or replacement for recipient cells, tissues, or organs.

Claim 50. (Previously Presented) A cell, tissue, or organ obtained from the pig of claim 45 for use as an in vivo or ex vivo supplement or replacement for recipient cells, tissues, or organs.

Claim 51. (Previously Presented) The pig of claim 1 comprising a point mutation in an allele of the α-1,3-GT gene.

Claim 52. (Previously Presented) The pig of claim 51 wherein the point mutation is a T-to-G point mutation at the second base of exon 9 of the α-1,3-GT gene.

Claim 53. (Previously Presented) The organ of claim 2 comprising a point mutation in an allele of the α-1,3-GT gene.

Claim 54. (Previously Presented) The organ of claim 53 wherein the point mutation is a T-to-G point mutation at the second base of exon 9 of the α-1,3-GT gene.

Claim 55. (Previously Presented) The tissue of claim 8 comprising a point mutation in an allele of the α-1,3-GT gene.

Claim 56. (Previously Presented) The tissue of claim 55 wherein the point mutation is a T-to-G point mutation at the second base of exon 9 of the α-1,3-GT gene.

Claim 57. (Previously Presented) The cell or cell line of claim 13 comprising a point mutation in an allele of the α-1,3-GT gene.

Claim 58. (Previously Presented) The cell or cell line of claim 57 wherein the point mutation is a T-to-G point mutation at the second base of exon 9 of the α-1,3-GT gene.

Claim 59. (Previously Presented) The pig of claim 1 wherein at least one allele of an α-1,3 -GT gene is inactivated via a genetic targeting event.

Claim 60. (Previously Presented) The method of claim 17 wherein at least one of the male or female pig comprises at least one allele of an α-1,3-GT gene that is inactivated via a genetic targeting event.

Claim 61. (Previously Presented) The animal of claim 43 wherein at least one allele of an α-1,3-GT gene is inactivated via a genetic targeting event.

Claim 62. (Previously Presented) The cell, tissue or organ of claim 48 wherein at least one allele of an α-1,3-GT gene is inactivated via a genetic targeting event.

Claim 63. (Previously Presented) The cell of claim 13, wherein the cell is a neural cell.

Claim 64. (Previously Presented) The cell of claim 13, wherein the cell is derived from a liver.

Claim 65. (Previously Presented) The cell of claim 13 wherein the cell is selected from the group consisting of an epithelial cell, a fibroblast cell, a keratinocyte, a hematopoietic cell, a chondrocyte, a muscle cell, an epidermal cell, an endothelial cell, a blood cell, a bone cell, a bone precursor cell, a primordial stem cell, a hepatocyte, a cardiac myocyte,an adipocyte, a heart cell and a mammary cell.